

June 22, 1952

Dr. Stuart Mudd
Department of Microbiology
University of Pa. Medical School
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Dear Dr., Mudd:

For some of the work I'm doing now, I should like to have two distinctive vital stains that can be used to tag individual cells of *E. coli*. Triphenyl-tetrazolium works very well as such a stain, but unfortunately, the other tetrazoles I've tried have a reddish tinge so that they cannot be readily distinguished from it under the microscope. Can you suggest, from your own experience, another tetrazolium derivative whose intra-cellular granules can be microscopically distinguished from those of the triphenyl compound?

The application I have in mind is fairly obvious: to tag the cells of each of two parent cultures so that I can identify mixed pairs, if they occur. I have used only the single tetrazolium, but unfortunately, the granule does not divide with the cell, so that after a period of growth one cannot be sure of the parentage of an unstained cell.

Can you suggest any other vital stains that might be applicable?

Yours sincerely,


Joshua Lederberg